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ACCIDENTAL DEATH AMONG CHILDREN AND TEENAGERS IN NORTH CAROLINA

North Carolina's registered deaths reveal the following:

Accidents are the leading cause of mortality for all age groups between one and 44;

Over half of all deaths between the ages of one and 20 are due to accidents;

Accidental death rates for children and teens in North Carolina are considerably higher than those in the nation.

In an effort to gain insight into the types of accidents which are killing the youngsters of our state, accidental deaths occurring during 1974-78 to children and teenagers residing in North Carolina were examined. For this period, the average annual rate of death due to accidents among N.C. residents under age 20 was 22 percent higher than that for the nation during 1974-77. This comparison is based upon the latest data from the National Center for Health Statistics.

The rate for motor vehicle accidental deaths was 31 percent higher than the U.S. rate; the non-motor-vehicle accidental death rate was 11 percent higher. N.C. rates for the five leading causes of non-motor-vehicle accidental deaths were all higher than national rates for those under age 20 as follows: fires, 29 percent; drowning, 22 percent; firearms, 25 percent; poisoning by solid and liquid substances, 33 percent; and strangulation by ingestion, 22 percent.

Table 1 shows leading causes of death by age group among North Carolina residents under age 20. Except for infants under one year of age, accidents take the lead in every age group. For ages 1-19, the accidental death rate (deaths per 100,000 population) is almost eight times as high as the rate for the next leading cause of death, cancer. Though accidents rank relatively low among the leading causes of infant death, the total accidental death rate for infants is higher than rates for any of the other ages under 20, except ages 15-19.

During the five-year period 1974-78, a total of 3,734 children and teenagers residing in North Carolina reportedly died from accidental causes to account for 28 percent of all deaths in this age group. Table 2 shows total and accidental deaths with average annual rates by age group, race, and leading types of accidents. A majority, 60 percent, of accidental deaths were the result of motor vehicle accidents which killed North Carolina residents under age 20 at an average annual rate of 23.5 per 100,000 population.

Accidents involving motor vehicles were the leading cause of accidental deaths in all age groups under 20, including infants; sixty percent were 15-19 years old. For these older teenagers, the motor vehicle fatality rate was almost two and a half times the rate of other accidental deaths; it was 78 percent higher than the motor vehicle death rate for all North Carolina residents. Other age groups under 20, including infants, experienced motor vehicle death rates at least 49 percent lower than the over-all state rate.

Table 1
Deaths from Leading Causes with
Average Annual Rates^a by Age Group
North Carolina Residents Under Age 20, 1974-1978

Cause	Under 1 Year		Cause	Ages 1-4	
	Total	Rate		Total	Rate
Anoxic, Hypoxic Conditions	1,744	428.3	Total Accidents	545	32.2
Congenital Anomalies	1,120	275.0	Motor Vehicle	239	14.1
Immaturity	774	190.1	Other Accidents	306	18.1
Sudden Infant Death Syndrome	766	188.1	Congenital anomalies	173	10.2
Conditions of Mother and			Cancer	86	5.1
Difficult Labor	514	126.2	Influenza and Pneumonia	74	4.4
Influenza and Pneumonia	231	56.7	Heart Disease	38	2.2
Accidents	210	51.6	Homicide	37	2.2
Motor Vehicle	49	12.0			
Other Accidents	161	39.5			
Ages 5-9			Ages 10-14		
Total Accidents	510	23.0	Total Accidents	557	22.5
Motor Vehicle	310	14.0	Motor Vehicle	286	11.6
Other Accidents	200	9.0	Other Accidents	271	11.0
Cancer	125	5.6	Cancer	95	3.8
Congenital Anomalies	50	2.3	Congenital Anomalies	51	2.1
Cystic Fibrosis	28	1.3	Heart Disease	37	1.5
Heart Disease	22	1.0	Influenza and Pneumonia	32	1.3
Influenza and Pneumonia	21	0.9	Homicide	31	1.3
Ages 15-19			Ages 1-19		
Total Accidents	1,912	70.5	Total Accidents	3,524	38.8
Motor Vehicle	1,345	49.6	Motor Vehicle	2,180	24.0
Other Accidents	567	20.9	Other Accidents	1,344	14.8
Homicide	230	8.5	Cancer	458	5.0
Suicide	209	7.7	Homicide	311	3.4
Cancer	152	5.6	Suicide	233	2.6
Heart Disease	59	2.2	Influenza and Pneumonia	163	1.8
Congenital Anomalies	47	1.7	Heart Disease	156	1.7

^aDeaths per 100,000 population

Accidents not involving motor vehicles accounted for a total of 1,505 deaths among North Carolina's youth during the five-year period for an average annual rate of 15.8 deaths per 100,000 population. This rate compares to a rate of 30.0 for all North Carolina residents. Of five age groups under 20, infants alone experienced a non-motor-vehicle accidental death rate higher than the rate for all North Carolina residents. Non-motor-vehicle accidents killed infants at a rate of 39.5 which was 32 percent higher than the state rate.

Variations by Race and Sex Groups

Generally, nonwhites are at greater risk of death from non-motor-vehicle accidents than are whites, but the risk varies according to type of accident. Table 2 shows rates of accidental deaths by cause for race groups. This table shows that nonwhite youths are at higher risk of dying accidentally from drowning and by fire which together accounted for 63 percent of all non-motor-vehicle accidental fatalities among nonwhites. Young whites are at highest risk of dying accidentally from drowning, from firearms and by fire, which together accounted for 52 percent of non-motor-vehicle accidental fatalities among whites under age 20.

Table 2

Total Deaths, Deaths Due to Leading Causes of Accidents,
and Average Annual Rates^a by Race and Age Group
North Carolina Residents Under Age 20, 1974-1978

Cause	Under Age 1				Ages 10-14			
	White		Nonwhite		White		Nonwhite	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Total Deaths	4,011	1395.9	3,259	2724.4	7,270	1785.3	671	37.9
Total Accidents	114	39.7	96	80.3	210	51.6	372	21.0
Motor Vehicle	42	14.6	7	5.9	49	12.0	216	12.2
Other Accidents	72	25.1	89	74.4	161	39.5	156	8.8
Strangulation by Ingestion	19	6.6	23	19.2	42	10.3	46	2.6
	12	4.2	26	21.7	38	9.3	42	2.4
Mechanical Suffocation	14	4.9	11	9.2	25	6.1	7	0.4
Drowning	5	1.7	8	6.7	13	3.2	7	0.4
Falls	3	1.0	5	4.2	8	2.0	10	0.6
Ages 15-19								
Total Deaths	733	60.8	572	117.5	1,305	77.1	2,223	113.8
Total Accidents	286	23.7	259	53.2	545	32.2	1,492	76.4
Motor Vehicle	125	10.4	114	23.4	239	14.1	1,108	56.7
Other Accidents	161	13.3	145	29.8	306	18.1	384	19.7
Fires	36	3.0	71	14.6	107	6.3	122	6.2
	39	3.2	14	2.9	53	3.1	45	2.3
Strangulation by Ingestion	16	1.3	13	2.7	29	1.7	30	1.5
Poisoning by Solid & Liquid Substances ^b	14	1.2	12	2.5	26	1.5	31	1.6
	8	0.7	10	2.1	18	1.1	27	1.4
Falls								
Total Under Age 20								
Total Deaths	629	39.6	313	49.8	942	42.5	8,267	121.5
Total Accidents	328	20.7	182	29.0	510	23.0	2,592	38.1
Motor Vehicle	199	12.5	111	17.7	310	14.0	1,690	24.8
Other Accidents	129	8.1	71	11.3	200	9.0	902	13.3
Drowning	41	2.6	23	3.7	64	2.9	253	3.7
	18	1.1	31	4.9	49	2.2	103	1.5
Fires	21	1.3	2	0.3	23	1.0	117	1.7
Struck by Objects ^c	10	0.6	1	0.2	11	0.5	58	0.9
Strangulation by Ingestion	8	0.5	1	0.2	9	0.4		
Deaths per 100,000 population in each age-race group								
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^aDeaths per 100,000 population in each age-race group

^bIncludes drugs

^cStruck by, struck against or caught between objects

Overall, males are more prone to fatal accidents than are females; the same is true for residents under age 20, as seen in Table 3. For ages under 20, the male rate of death due to accidents other than motor vehicle was more than two and a half times the female rate. The male death rate for motor vehicle accidents was 2.3 times the female rate. Of accidents other than motor vehicle, the leading cause of death to males under age 20 was drowning with a rate of 8.4; for females under age 20, the leading cause was fire with a rate of 2.6.

More About Leading Causes of Accidental Death

Of all accidents other than motor vehicle, drowning was the leading cause of death among persons under age 20, with a rate of 5.0. During the five-year period, a total of 475 or almost half of all drownings occurred to children and teenagers. The rate of death due to drowning of residents under age 20 was over twice as high for nonwhites as for whites and six times as high for males as for females. Drowning was the leading fatal accident other than motor vehicle in all age groups under 20, with the exception of children under age five. The highest death rate due to drowning, 8.4, occurred among ages 15-19.

Fires killed 258 children and teenagers during the five-year period, accounting for almost a quarter of all accidental deaths by fire. The second leading cause of death from accidents other than motor vehicle, fires killed young residents of North Carolina at a rate of 2.7. Though the rate of death due to fires was about the same for males and females, the rate for nonwhites was almost four times the white rate. At a rate of 6.3, fires also claimed more lives of children ages 1-4 than did any other type of non-motor-vehicle accident. Compared to whites, twice as many nonwhite children in this age group died in fires; the corresponding death rate was nearly five times as high.

Table 3
Total Deaths and Deaths Due to Accidents With
Average Annual Rates^a by Sex
North Carolina Residents Under Age 20, 1974-1978

Cause	Males		Females	
	No.	Rate	No.	Rate
Total Deaths	8,344	172.2	5,181	111.3
Total Accidents	2,680	55.3	1,054	22.7
Motor Vehicle	1,574	32.5	655	14.1
Other Accidents	1,106	22.8	399	8.6
Drowning	409	8.4	66	1.4
Fires	135	2.8	123	2.6
Firearms	121	2.5	24	0.5
Strangulation by Ingestion	60	1.2	44	0.9
Poisoning by Solid and Liquid Substances ^b	54	1.1	22	0.5
Falls	42	0.9	21	0.5
Mechanical Suffocation	40	0.8	19	0.4
Struck by Objects ^c	43	0.9	9	0.2
Poisoning by Gases	32	0.7	15	0.3
Water Transport	31	0.6	5	0.1
Electric Current	27	0.6	5	0.1
Medical Complications	13	0.3	10	0.2
Railroad	19	0.4	1	0.0
Air and Space	13	0.3	5	0.1
Others	67	1.4	30	0.6

^aRates per 100,000 population

^bIncludes drugs

^cStruck by, struck against or caught between objects

The third leading cause of non-motor-vehicle accidental death to residents under age 20 was firearms. A total of 145 young persons died as a result of accidents involving firearms, producing an average annual death rate of 1.5. Nearly three out of four of these deaths occurred among ages 10-19. For these ages, firearms ranked second only to drowning in fatal non-motor-vehicle accidents. The rate of accidental death from firearms was higher for white youths (1.7) than for nonwhites (1.0) and five times as high for males (2.5) as for females (0.5). Over a third of all accidental deaths from firearms occurred to children and teens.

Strangulation by ingestion of food or other objects ranked fourth in fatal non-motor-vehicle accidents among North Carolina residents under age 20. The deaths of 104 children and teenagers were attributed to this cause during 1974-78. Forty percent of these deaths occurred to infants, making strangulation by ingestion the leading cause of non-motor-vehicle accidental deaths to residents under a year of age. An additional 28 percent of accidental strangulation deaths to residents under age 20 occurred among ages 1-4. This cause ranked third, behind fires and drowning, among the leading causes of non-motor-vehicle accidental deaths in this age group. For all ages under 20, the rate of death from strangulation by ingestion was higher for males and nonwhites than for females and whites.

In the younger age groups, race was especially a factor in this cause of death. The rate for nonwhite infants dying from accidental strangulation by ingestion was close to three times the corresponding rate for white infants. For ages 1-4, the non-white rate was twice the white rate. Children and teenagers accounted for nearly a quarter of the accidental deaths from strangulation by ingestion occurring among North Carolina residents.

Ranking fifth in 1974-78 fatal non-motor-vehicle accidents among North Carolina children and teenagers was poisoning by solid and liquid substances, including drugs. Nine out of ten of these decedents were either under age five or ages 15-19. The fatality rate for nonwhite children under age five was almost twice the rate for white children; on the other hand, the rate for ages 15-19 was twice as high for whites as for nonwhites. The rate of death due to poisoning by solid or liquid substances was also twice as high for males as for females. Only nine percent of total accidental deaths from this cause occurred to residents under age 20.

The next leading cause of non-motor-vehicle accidental death under age 20 was falls. However, this age group accounted for only four percent of total deaths due to falls. About two out of five of the children and teens who died from falls were ages 0-4; an additional two out of five were ages 15-19. The rate of death due to falls was twice as high for males and nonwhites as for females and whites under age 20.

Deaths to North Carolina residents under age 20 resulting from accidental mechanical suffocation (smothering) represented half of all deaths from this cause which ranked behind falls. Two-thirds of the children and teens dying from mechanical suffocation were ages 0-4; 64 percent of these were infants. The rate of death from this cause among North Carolina residents under age 20 was twice as high for males as for females but was the same for whites and nonwhites.

Though accident rates remain high for children and teenagers in North Carolina, an overall decline of five percent occurred between 1974 and 1978. Most of this decline involved deaths from accidents other than motor vehicle; this rate for residents under age 20 declined ten percent during the five-year period while the corresponding rate for all North Carolinians dropped only 1 percent. The death rate for motor vehicle accidents among residents under age 20 declined by only two percent during the same time period, while for all residents of the state, the motor vehicle accidental death rate declined by 10 percent.

Figure 1 reflects 1974-78 average annual rates of death due to motor vehicle accidents among children and teenagers by county of residence. Counties have been grouped into clusters according to rates which are most alike. Rates range from a low of 4.4 in Yancey County to a high of 53.5 in Alleghany County. Figure 2 shows rates due to accidents other than motor vehicle. Here, rates range from a low of 0.0 in Camden and Graham counties to a high of 61.3 in Tyrrell County. These maps help to pinpoint areas which have the highest rates of accidental death among North Carolina residents under 20 years of age. These areas need to stress more and better accident prevention in order to save the lives of North Carolina's children.

FIGURE 1
MOTOR VEHICLE ACCIDENTS

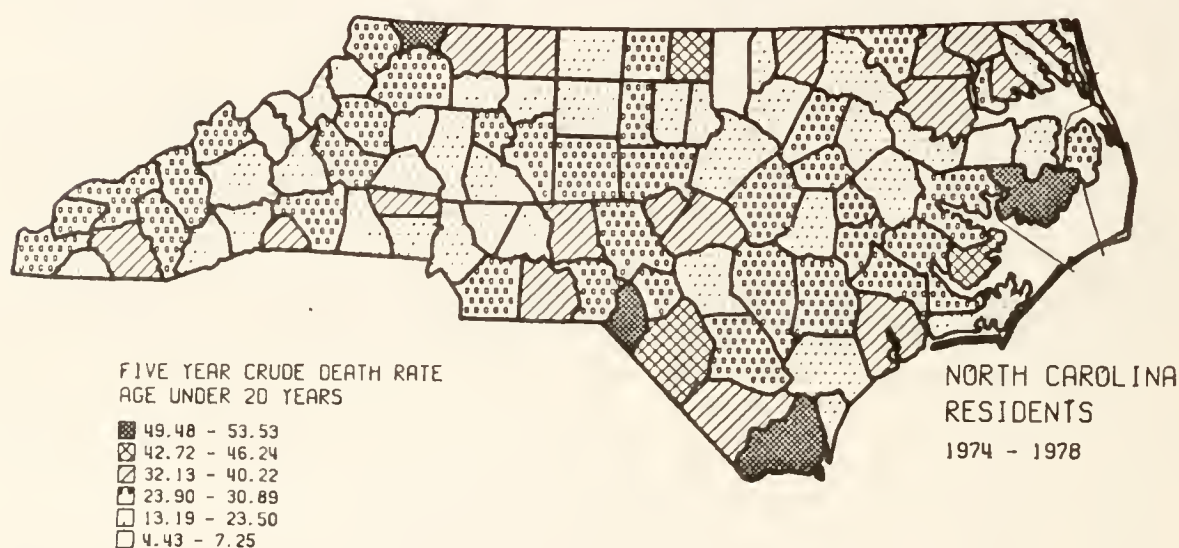
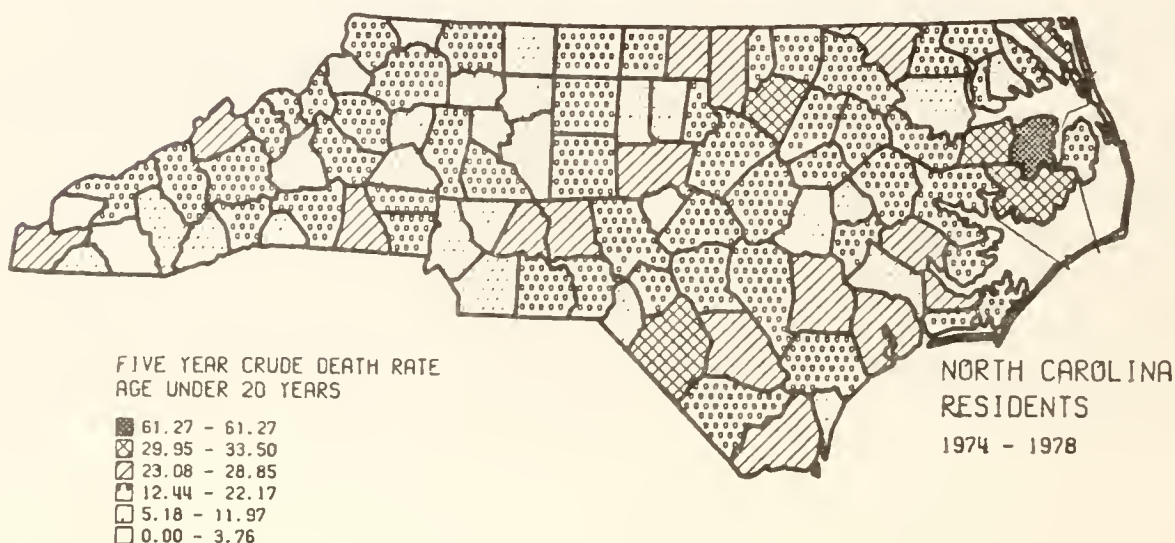


FIGURE 2
ACCIDENTS EXCLUDING MOTOR VEHICLES



Summary

Though the rate of death from accidents occurring to children and teenagers is lower than that for other age groups, accidents are the leading cause of death among young people. During 1974-78, sixty percent of the 3,734 accidental deaths among North Carolina residents under age 20 were motor vehicle fatalities. Of the remaining 1,505 accidental deaths, drowning was the leading cause followed by fires, firearms, strangulation by ingestion, and poisoning by solid and liquid substances. As with all other age groups, nonwhites and males under age 20 are more prone to die from accidents than their white and female counterparts, though risk varies, depending upon both cause and age group. Accidental death rates for young residents, including rates for the several leading causes examined, were considerably higher in North Carolina than in the nation.

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